SOUND TRANSIT – EXPERT REVIEW PANEL

NOTES ON CAPITAL COST ESTIMATING CONFERENCE CALL SEPTEMBER 28, 2005

Participants in Conference Call: Mike Meyer, Bill Lorenz, John Howell, Robert Harbuck, Art Borst, Paul Arnold, David Beal, Rebecca Rousch

Panel members had read the report so the call began with comments and questions. In general the panel members said the methodology appeared typical for capital cost estimating, but they wanted to discuss several issues.

It was suggested that the panel would benefit from further explanation of the "lessons learned" description provided on page 3 of the Cost Estimating Methodology and Documentation report. Given the importance of estimating capital costs for ST2 projects, it is important to understand thoroughly the lessons learned from Sound Move.

Base Year Costs and Inflation

A question was asked about the difference in right-of-way unit prices described on page 12 of the report. The report states that prices will be adjusted from 2001 to 2005 dollars using the following inflation rates: for urban areas, 2001-2003 @ 2% per year, and 2004-2005 @ 5% per year; and for suburban projects, 2001-2005 @ 7% per year. ST staff and consultants stated that they looked at historic trends in right-of-way inflation, but said they would provide a more detailed answer to the panel members.

Contingency Factors

Panel members said they would like to see the contingencies broken out for all of the major cost categories for capital projects. Table 1, on page 14 of the report, lists all of the cost categories but does not list the associated contingencies. *ST staff and consultants said that Table 1 has been revised to reflect that information and will be sent to panel members*.

Panel members asked how the process of assigning contingencies will work. ST responded by stating that contingencies will be applied to the type of facility depending on the complexity of the project and the level of engineering and design completed. A standard will be used for different types of projects (e.g. 35 % contingency for tunnel work), unless engineering judgment says there is a reason to override the standard contingencies.

ST intends to apply engineering judgment, based on historical experience, in making final determinations about the proposed level of contingency. Panel members stated that they would not recommend that engineers estimates result in any reduction of contingencies.

Use of Cost Ranges

A question was asked about the use of a cost "range" in addition to the inclusion of contingencies. ST stated that there may be situations during the development of the ST2 Plan where it will be more appropriate to express projects' cost as ranges, rather than as single-point fixed estimates. In those situations, ST plans to express the costs as ranges from minus 5% to plus 30% of the actual estimate. ST was asked if this could be viewed as an additional contingency added onto project cost estimating contingencies. The ST consultants stated that ranges are applied using historical data on the difference between estimated costs and final construction costs. No matter how good the cost estimating process is, historically projects may come in within a certain range above or below those estimates. The key question, panel members agreed, is what estimate will be used for budgeting (and ballot) purposes. ST staff said the agency has not decided how it will use the data on project cost ranges. For example, the ST Board could decide to set aside program reserve funds instead of increasing the range of cost estimates. The panel members asked about FTA's view of the use of cost ranges. ST staff stated that FTA is not actively involved with ST in developing cost estimates. However, FTA has been working with agencies that have done a project cost analysis that results in the use of cost ranges. It was also suggested by the panel that the use of ranges is one way to manage risk assessment and take into account levels of uncertainty. *A panel member asked ST to provide information regarding how actual experience has compared to the cost ranges.*

Rail Convertible BRT

The panel members asked about the assumptions used in estimating the cost for the rail convertible BRT option. They asked how the conversion process was being defined. ST consultants said they are assuming that the entire bus system will be shut down to convert to LRT. They have looked at plans for other systems to convert BRT to LRT. In order to keep the system running while conversion occurred, an overly large (and costly) busway would have to be constructed. They are going to study what would happen if they constructed all of the rail tracks at the front end of the construction process.

Panel members asked what assumptions they are making regarding the adaptability of the I-90 bridge for rail use. ST staff said they are awaiting results from the WSDOT I-90 load tests, and expect preliminary findings about the WSDOT traffic study by the December/January time frame. It was suggested that the HOV lane system would have to be shut down to accommodate the conversion.

Third-party Agreements

Panel members asked questions about how third-party agreements will be incorporated into the cost estimates. It was suggested that third-party agreements are often the cause of significant increases in project costs. ST staff said that potential third-party agreements will be identified as the project descriptions are prepared for each project. It is ST's goal to create project descriptions prior to going to the ballot that will include a sufficiently thorough description of each project so that third-party costs can be estimated and new third-party costs will not surface during the more detailed project design and engineering phases. An example of previous experience that will inform new cost estimates is the work with the University of Washington regarding costs to mitigate potential vibration from an underground light rail line. However, it was suggested that more some of the

projects, such as the I-90 High Capacity Transit project, ST has little experience working with those communities on siting an HCT alignment. A panel member stated that generally it is easier to identify third-party costs when a higher level of engineering (i.e. 30 %) has been completed. *The panel would like to have a better understanding of the affect of third-party agreements on Sound Move project costs.*

ST staff are now working with committees of elected officials and technical staff in each of the five sub-areas to identify and prioritize projects. Each sub-area will forward a list of prioritized projects to ST by October 1st. ST will then respond to each sub-area with a list of projects for which they intend to develop project descriptions and cost estimates. In November ST will begin to share project descriptions and cost estimates for the "less complex" projects, such as park and ride lots and HOV access ramps. Draft project descriptions and cost estimates for the more complex projects will not be complete until December or January. They will be reviewed by the sub- area committees at that time.

Project Reserves

A question was asked about the purpose of the project reserve. ST staff said that this portion of the methodology has been changed and that the new methodology does not include a project reserve. *ST will forward the revised methodology to the panel.*

Right-of-Way Costs

Questions were asked about how right-of-way costs will be estimated. ST staff said another lesson learned was that right-of-way costs were often underestimated for Sound Move projects. The draft methodology suggests that ST will use its experience on Sound Move to develop urban and suburban unit prices. However, ST staff said that they are also considering developing "high, medium, and low" categories of right-of-way unit prices. *The panel would like to see some data on real estate inflation in the three county region, when it reviews the financial planning assumptions for ST2.*

Follow Up

It was agreed that the following items would be provided to the panel.

? Revised Tables 1 & 2 (pages 14 and 19)
? Explanation of the difference in right-of-way unit costs for 2001 – 2005, for urban and suburban projects (page 12).
? Historical data comparing cost estimating ranges (5-30%) with actual cost experience.
? Historical inflation rates for real estate in the three counties (and whether the data accounts for differences among the counties).
? Examples of boiler plates for third-party agreements.
? Explain how ST will handle project reserves?
? A better understanding of how third-party agreements have affected project cost of Sound Move projects.